Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-11. (Cancelled)

12. (Currently Amended) A catalyst ink comprising an aqueous ionomer gel ~~of claim 1~~ and a catalyst, wherein the aqueous ionomer gel is substantially free of organic solvents, having an ionomer solids content ranging from about 4 % to about 18 % by weight of the gel and a viscosity in excess of 5,000 centipoise at a shear rate of 10 seconds^{-1}.

13. (Original) The catalyst ink of claim 12 wherein the catalyst is a noble metal catalyst.

14. (Original) The catalyst ink of claim 13 wherein the noble metal is platinum.

15. (Original) The catalyst ink of claim 12 having a catalyst solids contend ranging from about 4 to about 40 % by weight of the catalyst ink.

16. (Original) The catalyst ink of claim 12 having a catalyst solids contend ranging from about 20 to about 40 % by weight of the catalyst ink.

17. (Original) The catalyst ink of claim 12 further comprising a filler, binder, pore forming material or combination thereof.

18. (Original) A coated substrate, wherein the substrate has at least one surface coated with the catalyst ink of claim 12.

19. (Original) The coated substrate of claim 18 wherein the substrate is an electrode.

20. (Original) The coated substrate of claim 19 wherein the electrode is an electrochemical fuel cell electrode.

21. (Original) An electrochemical fuel cell comprising a coated surface of claim 18.

22. (Original) A membrane comprising the catalyst ink of claim 12.

23. (Original) A method for making an aqueous ionomer gel having an ionomer solids content ranging from about 4 % to about 18 % by weight of the gel and a viscosity in excess of 5,000 centipoise at a shear rate of 10 $seconds^{-1}$, comprising the steps of:

providing a solution comprising an ionomer, water and a nonaqueous solvent having a boiling point less than 100°C, wherein the nonaqueous solvent is miscible with water; and

evaporating the nonaqueous solvent at less than ambient pressure to produce the aqueous ionomer gel.

24. (Original) The method of claim 23 wherein the nonaqueous solvent is evaporated in the absence of applied heat.

25. (Original) The method of claim 23 further comprising the step of cooling the aqueous ionomer gel following the evaporating step.

26. (Original) The method of claim 23 further comprising the step of adding a catalyst to the aqueous ionomer gel following the evaporating step.

27. (Original) The method of claim 23 wherein the solution comprising the ionomer, water and the nonaqueous solvent further comprises a catalyst prior to the evaporation step.

28. (Original) The method of claim 23 wherein the nonaqueous solvent has a boiling point ranging from about 50 to less than 100°C.

29. (Original) The method of claim 23 wherein the nonaqueous solvent is an alcohol or a ketone.

30. (Original) The method of claim 29 wherein the alcohol is methanol.

31. (Original) The method of claim 29 wherein the ketone is acetone.

32. (Original) The method of claim 23 wherein the solution comprising the ionomer, water and the nonaqueous solvent is provided by addition of the nonaqueous solvent to an aqueous solution of ionomer.

33. (Original) The method of claim 23 wherein, prior to the step of evaporating, the solution comprising the ionomer, water and the nonaqueous solvent is heated to facilitate solvation of the ionomer.

34. (Original) The method of claim 33 wherein heating to facilitate solvation is at a temperature up to about 40°C.

35. (Original) The method of claim 23 wherein the solution comprising the ionomer, water and the nonaqueous solvent is provided by addition of water to a nonaqueous solution of ionomer.

36. (Original) A method for making an aqueous ionomer gel having an ionomer solids content ranging from about 4 % to about 18 % by weight of the gel and a viscosity in excess of 5,000 centipoise at a shear rate of 10 seconds^{-1}, comprising the steps of:

rapidly cooling an aqueous ionomer solution to a temperature below -5°C to form a substantially frozen form of the aqueous ionomer solution; and

thawing the substantially frozen form of the aqueous ionomer solution to produce the aqueous ionomer gel.

37. (Original) The method of claim 36 wherein the aqueous ionomer solution is cooled at a rate greater than 6°C/minute.

38. (Original) The method of claim 37 wherein the aqueous ionomer solution is cooled at a rate greater than 10°C/minute.

39. (Original) The method of claim 36 wherein the aqueous ionomer solution is cooled to temperature below -25°C.

40. (Original) The method of claim 39 wherein the aqueous ionomer solution is cooled to temperature below about -70°C.

41. (Original) The method of claim 36 further comprising the step of diluting the aqueous ionomer gel to achieve a desired viscosity.

42. (Original) The method of claim 36 wherein the aqueous ionomer solution further comprises a catalyst.

43. (Original) The method of claim 39 further comprising the step of adding a catalyst to the aqueous gel.

44. (Original) The method of claim 23 or 36 further comprising the step of suspending a catalyst ink in the aqueous ionomer gel after or simultaneously with formation of the aqueous ionomer gel to yield a catalyst ink.

45. (Original) The method of claim 44 further comprising the step of applying the catalyst ink to at least one surface of a substrate.

46. (Original) The method of claim 45 further comprising the step of annealing the catalyst ink.

47. (Original) A substrate made by the method of claim 45.

48. (Original) An annealed substrate made by the method of claim 46.